

Work Order ID 149218

Monday, July 25, 2016 12:47:34 PM

149218

Page 1

Item ID: D4095-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Wearplate Fwd

Start Date: 9/12/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 9/20/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals:

Process Plan:

DAS

Date: JUL 25 2016

Tooling:

Date:

Run Start

NR1

QC:

21
9-89

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4095	C	OK 9/16/27							
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.27							
FLOW CNC Waterjet	1-Cut as per Dwg (D4095-1) Dwg Rev: <u>C</u> Prog Rev: <u>C</u> 2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.02							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.03							
Quality Control									

DAS
9
9-89

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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Page 2

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Revision ID: Stop ***NS2***
Item Name: Wearplate Fwd
Start Date: 9/12/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 9/20/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Brake NC Brake NC	NC BRAKE Memo 1- bend section C-C first 2- Form on Brake as per Dwg D4095 using Jigs DT 8179 and DT 8155 3- Form Joggles (2) as per Dwg D4095 on brake using Jig DT 8157	0.01 0.05				DAS 30 9-89 10			AUG 16 2016
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo Ensure joggle as per dwg D4095	0.00 0.03				10			DAS 38 9-89 AUG 17 2016
150 *150* autoweld 1 Automated Welding 1	Weld per dwg & QSI004 4.5 Large Fab Memo ***SEE NOTE 10 FOR SURFACE BUILDUP*** 1- WELD AS PER DWG AND QSI004 4.5 FOR AUTOMATED WELDING USE 8259 HARDCOAT BATCH: <u>M135057</u>	0.00 0.00				10	02	168-29	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 9/12/2016 **Start Qty:** 10.00

10

Cust Item ID:

Required Date: 9/20/2016 **Req'd Qty:** 10.00

10

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

**Insp.
Stamp**

160

QC10- Inspect visual per QSI004- ground welds

0.00

160

QC

Memo

0.00

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00

170

QC

Memo

0.03

Quality Control

180

0.00

180

HandFinish

Memo

0.23

Hand Finishing

COAT ENTIRE TOP (CONCAVE) SURFACE WITH ROCKGUARD AS PER
DWG
A/R ROCKGUARD BATCH: 135064

DAS
41
9-89

10-8-30

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 149218

Monday, July 25, 2016 12:47:34 PM

149218

Page 4

Item ID: D4095-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wearplate Fwd
Start Date: 9/12/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 9/20/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC3- Inspect Part Finish	0.00							
190									
QC	Memo	0.02							
Quality Control									
200	Identify as per dwg & Stock Location: <u>FP002</u>	0.00							
200									
Packaging	Memo	0.02							
Packaging	LOCATION : FP002								
210	QC21- Final Inspection - Work Order Release	0.00							
210									
QC	Memo	0.17							
Quality Control									

DAS
21
9-89

SEP 01 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
347 82 82-4				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

Monday, July 25, 2016 12:47:34 PM

Work Order ID: 149218

149218

Parent Item: D4095-041

D4095-041

Parent Item Name: Wearplate Fwd

Start Date: 9/12/2016

Required Date: 9/20/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP Rev:A new issue DD 10.04.26 verified by:EC
15.10.29 AUTOMATE WELDING DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased		No		100	sf	86.6498	2.275	23.94737			

M304S16GA

on 16/07/30

304/316 Sheet .063

Location	Loc Qty	Loc Code
MAT010	70.15	
m134677	4.27	
m134982	5.48	
m135061	60.4	17.5
TPI	16.499794	
m134604	16.499794	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

ITEM	QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	QTY -051	PART NUMBER	DESCRIPTION
1	X						D4095-041	WEARPLATE ASSEMBLY
2		X					D4095-043	WEARPLATE ASSEMBLY
3			X				D4095-045	WEARPLATE ASSEMBLY
4				X			D4095-047	WEARPAD ASSEMBLY
5					X		D4095-049	WEARPAD ASSEMBLY
6						X	D4095-051	WEARPAD ASSEMBLY
7	1						D4095-1	WEARPLATE
8		1					D4095-3	WEARPLATE
9			1				D4095-5	WEARPLATE
10				1			D4095-7	WEARPAD
11					1		D4095-9	WEARPAD
12						1	D4095-11	WEARPAD

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ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 149218 MLJ
160725

D4095-041/-043/-045/-047/-049/-051 NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING 0.02-0.04 THICK, PER DART QSI 005 4.9
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4095-0XX" AND B/N "BXXXXX" USING REMOVABLE TAG PER QSI 044 6.6
- 7) WEIGHT: D4095-041 = 3.08 lbs; D4095-043 = 3.08 lbs; D4095-045 = 2.00 lbs; D4095-047 = 0.48 lbs; D4095-049 = 0.42 lbs; D4095-051 = 0.37 lbs
- 8) PARTS ARE SYMMETRIC ABOUT CENTERLINE

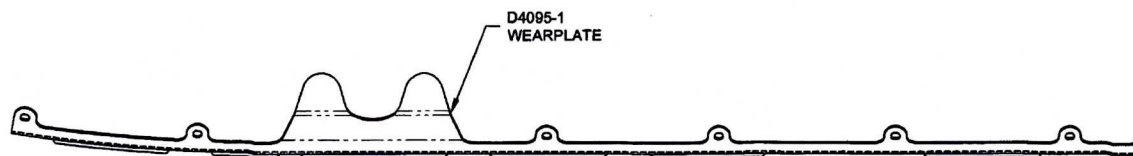
UNDER REVIEW

URF 16-572 ML

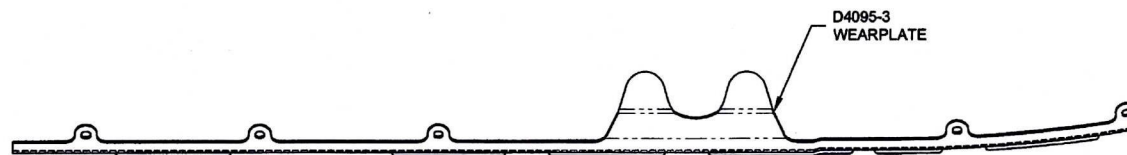
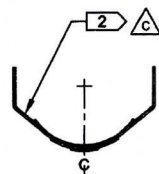
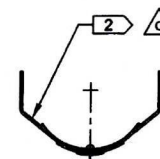
16.05.03

RELEASED
2016-01-11
EN 16-504

C	8259 WELD ROD WAS 2059B, 0.20 WELD THICKNESS WAS 0.25, MOVE DRAIN HOLE IN -1/3, 0.9 WAS 2.00 (TYPO B4-9), ADJUST TOL. FOR MANUFACTURABILITY, NOTE 2 NOW REF'S QSI 005 4.9, UPDATE MAT'L SPEC	CP	16.01.06
B	REVISED D4095-1/-1F/3/3F; 4715 PLUS ONE ROCK-GUARD REPLACES D4096-1/-3; ADDED D4095-5/-7 -8/-11; REVISED HARDCOAT DESIGN; REVISED NOTE 2	XDF	11.10.18
A	NEW ISSUE	MB	10.04.20
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE USA, INC	
DRAWN		EUGENE, OR	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4095	SHEET 1 OF 9
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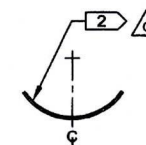
D4095-041 WEARPLATE ASSEMBLY



D4095-043 WEARPLATE ASSEMBLY



D4095-045 WEARPLATE ASSEMBLY



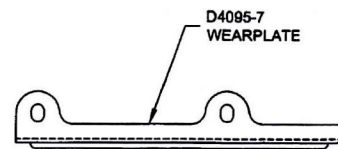
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URF 16-572 ML

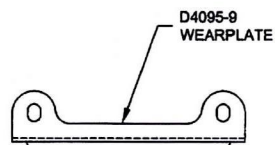
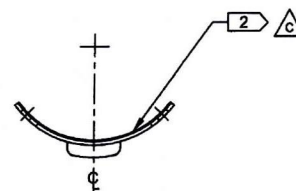
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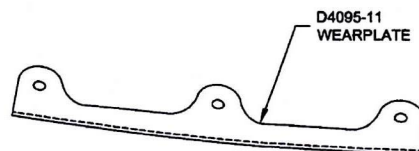
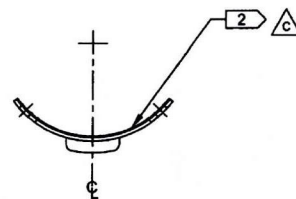
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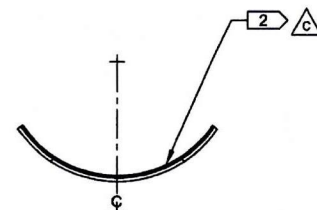
D4095-047 WEAR PAD ASSEMBLY



D4095-049 WEAR PAD ASSEMBLY



D4095-051 WEARPAD ASSEMBLY



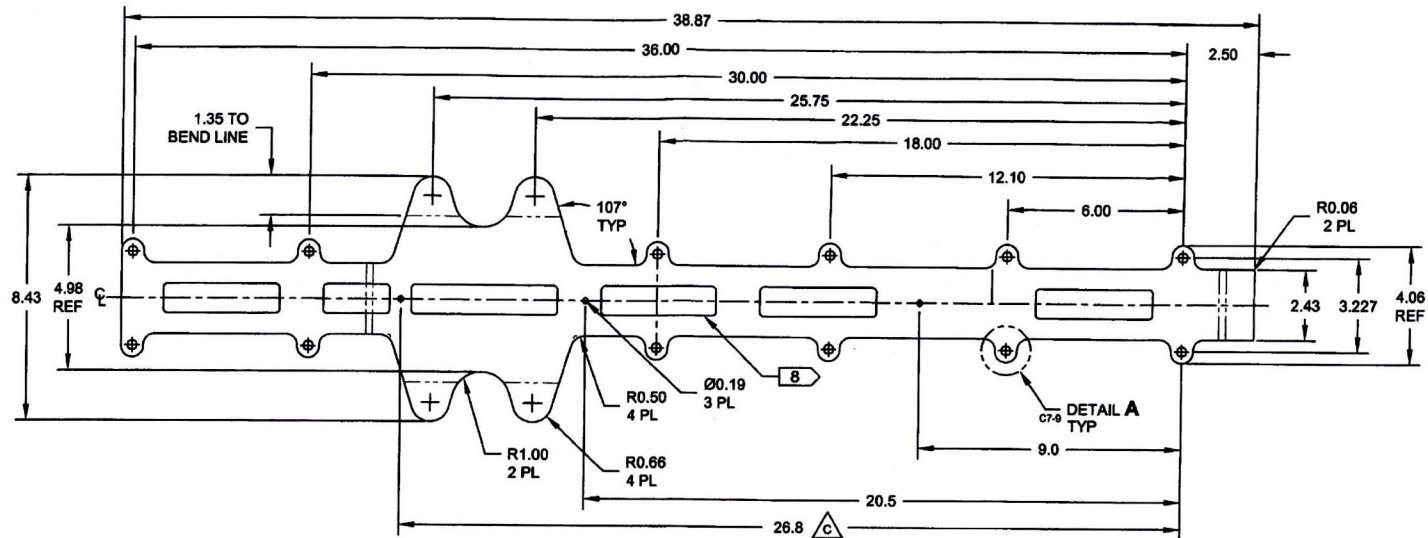
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URF 16-572 ML

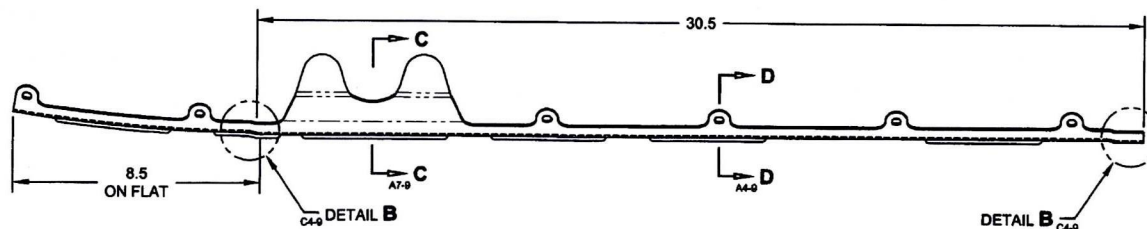
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D4095-1F FLAT PATTERN 1



D4095-1 BENDING DETAIL
(MAKE FROM D4095-1F)

D4095-1 NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5
- 9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

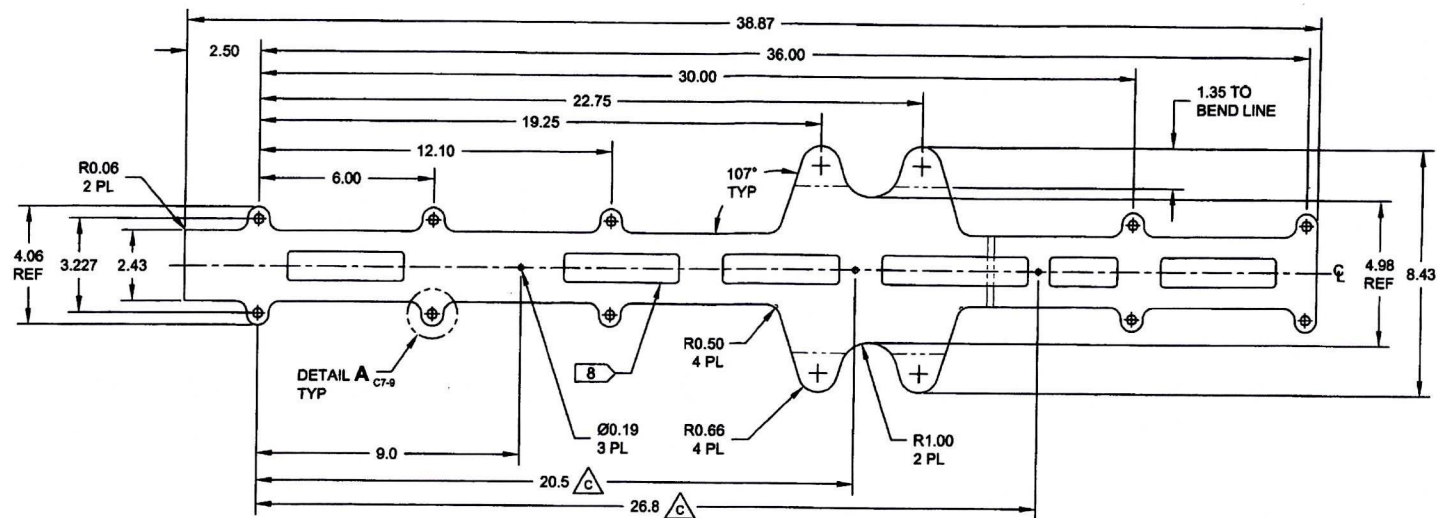
UNDER REVIEW

URF 16-572 ML

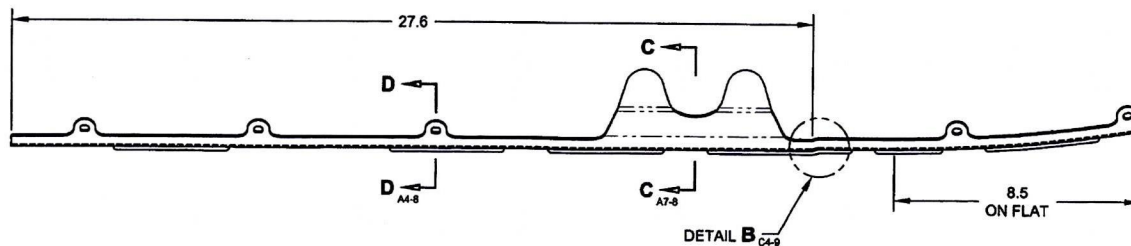
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D4095-3F FLAT PATTERN 1



D4095-3 BENDING DETAIL
(MAKE FROM D4095-3F)

D4095-3 NOTES:

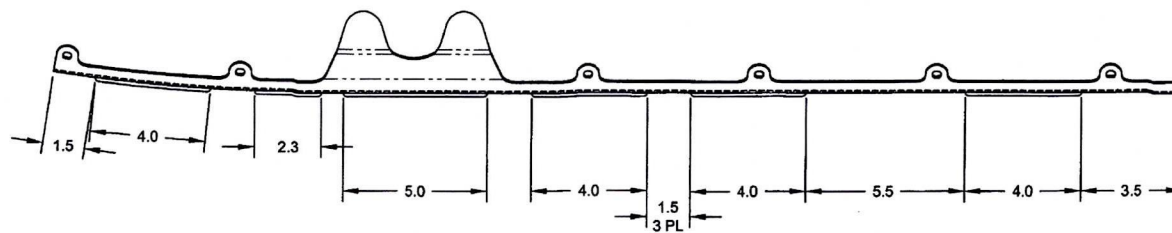
- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5
- 9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

UNDER REVIEW

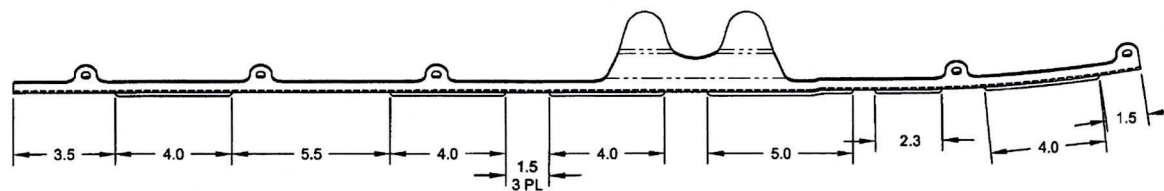
URF 16-572 ML
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D4095-1 WELDING DETAIL



D4095-3 WELDING DETAIL

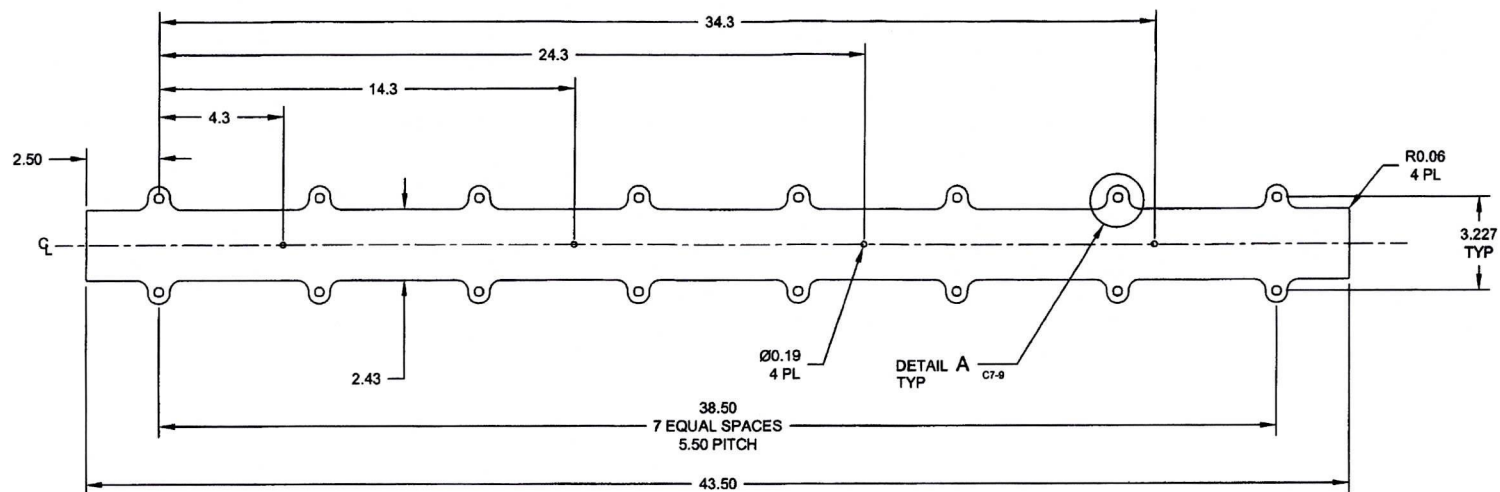
UNDER REVIEW

URF 16-572 ML

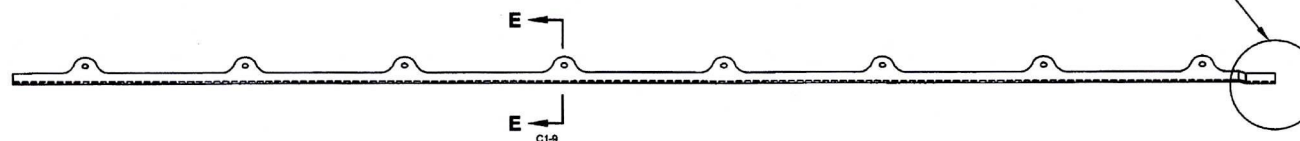
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D4095-5F FLAT PATTERN 1



D4095-5 BENDING DETAIL
(MAKE FROM D4095-5F)

D4095-5 NOTES:

- 1) MATERIAL: AISI 304/316 SS SHEET ANNEALED 2B FINISH, 16 GAUGE (0.063 THICK)
PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316), OR ASTM A240
OR ASME SA240 REF DART MATERIAL SPEC M304S16GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A
- 8) WELDING: BUILDUP HARD SURFACING 0.17 TO 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5
- 9) PARTS ARE SYMMETRIC ABOUT CENTERLINE

UNDER REVIEW

URF 16-572 ML
16.05.03

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2016-01-11

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CHECKED		DRAWING NO.	REV. C
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C



9



9



9



C

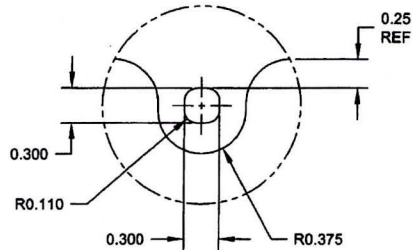


B

A

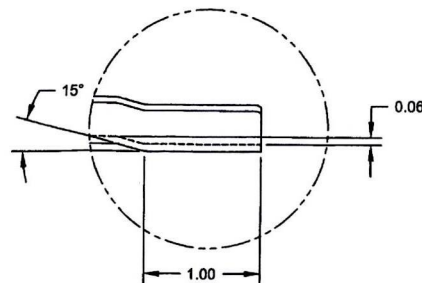
- A

D
MA



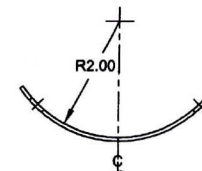
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SCALE 4X
C3-3
C6-5
D3-7
D2-8



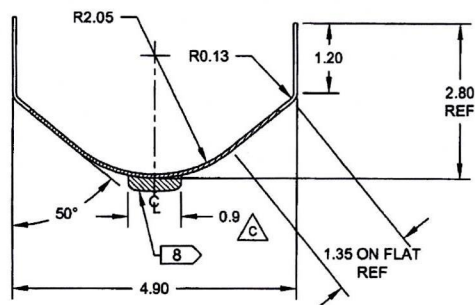
DETAIL B: JOGGLE DETAIL

SCALE 4X
B2-4
B6-4
B3-5
B2-7



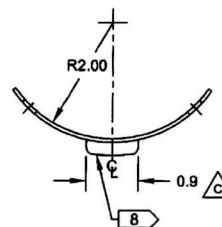
SECTION E-E

SCALE 2X
B5-7
B2-8



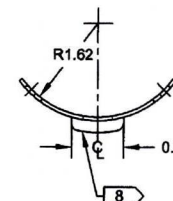
SECTION C-C

SCALE 2X
B5-4
B4-5



SECTION D-D

SCALE 2X
B4-4
B5-5



SECTION F-F

SCALE 2X
B5-8
B7-8

UNDER REVIEW
URF 16-572 ML
16.05.03

RELEASE
2016-01-11

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